

**CLAIMS**

1. A data processing system for valuing contributions by one or more tangible or intangible elements of value to a value of a business enterprise, comprising:

- (a) processing means for processing data;
- (b) storage means for storing data;
- (c) first means for obtaining data related to the value of the business enterprise, the business enterprise having one or more tangible or intangible elements of value contributing to the value of the business enterprise, and the value of the business enterprise including a revenue component, an expense component and a capital component;
- (d) second means for calculating, for each one of the tangible or intangible elements of value, a composite variable characterizing performance of the tangible or intangible element of value of the business enterprise, second means including means for combining transaction data, transaction ratios and transaction trends to calculate the composite variable;
- (e) third means for calculating the revenue, expense and capital components of the value of the business enterprise;
- (f) fourth means for determining, for each one of the tangible or intangible elements of value, a percentage of the revenue component contributed by the tangible or intangible element of value, a percentage of expense component contributed by the tangible or intangible element of value and a percentage of the capital component contributed by the tangible or intangible element of value;
- (g) fifth means for calculating a value for each of the tangible or intangible elements of value of the business enterprise based on the revenue, expense and capital components of value of the business enterprise and the percentages of the revenue, expense and capital contributed by the tangible or intangible elements of value; and
- (h) sixth means for displaying the values.

2. A data processing system as claimed in claim 1, wherein said second means further comprises

- (a) means for calculating for a range of time including a specified valuation date for each one of the tangible or intangible elements of value, the revenue, expense and

capital components of the value of the business enterprise and the percentages of the revenue, expense and capital components contributed by each one of the tangible or intangible elements of value;

3. A data processing system as claimed in claim 1, further comprising:

(h) optionally sub-dividing the revenue, expense and capital components of the value of the business enterprise into sub-components to yield a more detailed analysis.

4. A data processing system as claimed in claim 1, wherein said fourth means further comprises:

(a) means for using output from a predictive model to determine the percentage of the revenue component contributed by the tangible or intangible element of value, the percentage of the expense component contributed by the tangible or intangible element of value, and the percentage of the capital component contributed by the tangible or intangible element of value.

5. A data processing system as claimed in claim 1, wherein said fourth means further comprises:

(b) means for using output from a neural network to determine the percentage of the revenue component contributed by the tangible or intangible element of value, the percentage of the expense component contributed by the tangible or intangible element of value, and the percentage of the capital component contributed by the tangible or intangible element of value.

6. A data processing system as claimed in claim 1, wherein said fourth means further comprises:

(c) means for using output from a regression network to determine the percentage of the revenue component contributed by the tangible or intangible element of value, the percentage of the expense component contributed by the tangible or intangible element of value, and the percentage of the capital component contributed by the tangible or intangible element of value.

7. A data processing system as claimed in claim 1 further comprising:

- (i) means for using the composite variables to evaluate the impact of the tangible or intangible elements of value on the value of the business enterprise.
8. A data processing system for evaluating changes in contribution by one or more tangible or intangible elements of value to a value of a business enterprise, comprising:
- (a) processing means for processing data;
  - (b) storage means for storing data;
  - (c) first means for obtaining data related to the value of the business enterprise, the business enterprise having one or more tangible or intangible elements of value contributing to the value of the business enterprise,
  - (d) second means for calculating, for each one of the tangible or intangible elements of value, a composite variable characterizing performance of the tangible or intangible element of value of the business enterprise, second means including means for combining transaction data, transaction ratios and transaction trends to calculate the composite variable;
  - (e) third means for calculating the value of the enterprise;
  - (f) fourth means for determining, for each one of the tangible or intangible elements of value, a percentage of the value of the business enterprise contributed by the tangible or intangible element of value;
  - (h) fifth means for user modification of, for each one of the tangible and intangible elements of value, selected one or ones of the value drivers that drive the value of the business enterprise.; and
  - (g) sixth means for calculating a value for each of the tangible or intangible elements of value of the business enterprise based on the value of the business enterprise and the percentage of the value contributed by the tangible or intangible elements of value after user modification.
  - (h) seventh means for displaying the new value.
9. A data processing system as claimed in claim 8 wherein said fifth means comprises:
- (a) means for user modification of, for each one of the tangible or intangible elements of value, selected one or ones of the composite variable characterizing the performance of tangible or intangible element of value of the business enterprise.

10. A data processing system as claimed in claim 8 wherein said fifth means comprises:
  - (a) means for user modification of, the value of each one of the tangible or intangible elements of value of the business enterprise.
11. A data processing system as claimed in claim 8 where the value of the business enterprise includes a revenue component, an expense component, a capital component and a real option category of value.
12. The data processing system of claim 8 wherein said third means comprises:
  - (a) means for calculating the revenue, expense and capital components of the value and the real option category of the value of the business enterprise.
13. The data processing system of claim 8 wherein said fourth means comprises:
  - (a) means for determining, for each one of the tangible or intangible elements of value, a percentage of the revenue component contributed by the tangible or intangible element of value, a percentage of expense component contributed by the tangible or intangible element of value, a percentage of the capital component contributed by the tangible or intangible element of value and a percentage of the real option category of value contributed by the tangible or intangible element of value; and.
14. The data processing system of claim 8 wherein said sixth means comprises:
  - (a) means for calculating the value for each one of the tangible or intangible elements of value based on the revenue, expense and capital components of value of the business enterprise, the real option category of the business enterprise and the percentages of the real option category and the revenue, expense and capital components of value contributed by the tangible or intangible element of value
15. A data processing system as claimed in claim 11, further comprising:
  - (i) means for sub-dividing the revenue, expense and capital components of the value of the business enterprise into sub-components to yield a more detailed analysis.
16. A data processing system as claimed in claim 8, wherein said fourth means further comprises:

(a) means for using output from a predictive model to determine the percentage of the revenue component contributed by the tangible or intangible element of value, the percentage of the expense component contributed by the tangible or intangible element of value, and the percentage of the capital component contributed by the tangible or intangible element of value.

17. A data processing system as claimed in claim 8, wherein said fourth means further comprises:

(b) means for using output from a data envelopment analysis to determine the percentage of the percentage of the real option category of value contributed by the tangible or intangible element of value.

18. A data processing system as claimed in claim 8 further comprising:

(i) means for directly valuing at least one of the tangible or intangible elements of value of the business enterprise.

19. A data processing system for identifying changes to one or more business enterprises of a value chain, comprising:

(a) processing means for processing data;

(b) storage means for storing data;

(c) first means for obtaining data related to the value of the value chain, the value chain having one or more business enterprises contributing to the value of the value chain,

(d) second means for calculating, for each one of the business enterprises, a composite variable characterizing performance of the business enterprise of the value chain;

(e) third means for calculating the value of the value chain;

(f) fourth means for determining, for each one of the business enterprises, a percentage of the value of the value chain contributed by the business enterprise;

(g) fifth means for calculating a value for each of the business enterprises of the value chain based on the value of the value chain and the percentage of the value of the value chain contributed by the business enterprises; and

(h) sixth means for user entry of a goal value related to the value chain; and

- (i) seventh means for identifying changes to each one of the business enterprises of the value chain that will contribute to meeting the goal; and
- (j) eighth means for displaying the changes.

20. A data processing system as claimed in claim 19 where the value of the value chain includes a revenue component, an expense component and a capital component.

21. A data processing system as claimed in claim 1, wherein said second means further comprises

- (a) means for combining transaction data, transaction ratios, transaction trends transaction averages, time lagged transaction ratios, time lagged transaction trends, time lagged transaction averages, time lagged transaction data, transaction patterns, geospatial measures, relative rankings, links, frequencies, time periods, average time periods, cumulative time periods, rolling average time period, cumulative total values, the period to period rate of change in value to calculate the composite variable;

22. The data processing system of claim 19 wherein said third means comprises:

- (a) means for calculating the value of the revenue, expense and capital components of the value of the value chain.

23. The data processing system of claim 19 wherein said fourth means comprises:

- (a) means for determining, for each one of the business enterprises, a percentage of the revenue component contributed by the business enterprise, a percentage of expense component contributed by the business enterprise and a percentage of the capital component contributed by the business enterprise; and.

24. The data processing system of claim 19 wherein said fifth means comprises:

- (a) means for calculating the value for each one of the business enterprises based on the revenue, expense and capital components of value of the value chain and the percentages of the revenue, expense and capital component of value contributed by the business enterprise.

25. A data processing system as claimed in claim 20, further comprising:

(i) means for sub-dividing the revenue, expense and capital components of the value of the value chain into sub-components to yield a more detailed analysis.

26. A data processing system as claimed in claim 19, wherein said fourth means further comprises:

(a) means for using output from a predictive model to determine the percentage of the revenue component contributed by the business enterprise, the percentage of the expense component contributed by the business enterprise, and the percentage of the capital component contributed by the business enterprise.

27. A data processing system as claimed in claim 19, wherein said fourth means further comprises:

(b) means for using output from a multivariate adaptive regression spline to determine the percentage of the revenue component contributed by the business enterprise, the percentage of the expense component contributed by the business enterprise, and the percentage of the capital component contributed by the business enterprise.

28. A data processing system as claimed in claim 19 further comprising:

(i) means for directly valuing at least one of the business enterprises of the value chain.

29. A data processing system as claimed in claim 19 where the goal value is the optimal value for one or more aspects of financial performance.

30. A data processing system as claimed in claim 19, wherein said seventh means further comprises:

(a) means for goal seeking and optimization.

31. A data processing system as claimed in claim 19, wherein said seventh means further comprises:

(a) means for multi criteria goal seeking and optimization.

32. A data processing system for valuing contributions by one or more business enterprise to a value of a value chain, comprising:

- (a) processing means for processing data;
- (b) storage means for storing data;
- (c) first means for obtaining data related to the value of the value chain, the value chain having one or more business enterprise contributing to the value of the value chain, and the value of the value chain including a revenue component, an expense component and a capital component;
- (d) second means for calculating, for each one of the business enterprises, a composite variable characterizing performance of the business enterprise,
- (e) third means for calculating the revenue, expense and capital components of the value of the value chain;
- (f) fourth means for determining, for each one of the business enterprises, a percentage of the revenue component contributed by the business enterprise, a percentage of expense component contributed by the business enterprise and a percentage of the capital component contributed by the business enterprise; and
- (g) fifth means for calculating a value for each of the business enterprises of the value chain based on the revenue, expense and capital components of value of the value chain and the percentages of the revenue, expense and capital contributed by the business enterprises, and
- (h) sixth means for displaying the value contributions.

33. A data processing system as claimed in claim 32, wherein said second means further comprises

- (a) means for calculating for a range of time including a specified valuation date for each one of the business enterprises, the revenue, expense and capital components of the value of the value chain and the percentages of the revenue, expense and capital components contributed by each one of the business enterprises;

34. A data processing system as claimed in claim 32, wherein said second means further comprises

- (a) means for combining transaction data, transaction ratios, transaction trends transaction averages, time lagged transaction ratios, time lagged transaction trends,



time lagged transaction averages, time lagged transaction data, transaction patterns, geospatial measures, relative rankings, links, frequencies, time periods, average time periods, cumulative time periods, rolling average time period, cumulative total values, the period to period rates of change in value to calculate the composite variable;

35. A data processing system as claimed in claim 32, further comprising:

(h) optionally sub-dividing the revenue, expense and capital components of the value of the value chain into sub-components to yield a more detailed analysis.

36. A data processing system as claimed in claim 32, wherein said fourth means further comprises:

(a) means for using output from a predictive model to determine the percentage of the revenue component contributed by each business enterprise, the percentage of the expense component contributed by each business enterprise, and the percentage of the capital component contributed by each business enterprise.

37. A data processing system as claimed in claim 32, wherein said fourth means further comprises:

(b) means for using output from a neural network to determine the percentage of the revenue component contributed by each business enterprise, the percentage of the expense component contributed by each business enterprise, and the percentage of the capital component contributed by each business enterprise.

38. A data processing system as claimed in claim 32, wherein said fourth means further comprises:

(c) means for using output from a regression network to determine the percentage of the revenue component contributed by the business enterprise, the percentage of the expense component contributed by the business enterprise, and the percentage of the capital component contributed by the business enterprise.

39. A data processing system as claimed in claim 32 further comprising:

(i) means for using the composite variables to evaluate the impact of the business enterprises on the value of the value chain.

40. A data processing system for evaluating changes in contribution by one or more business enterprises to a value of a value chain, comprising:

- (a) processing means for processing data;
- (b) storage means for storing data;
- (c) first means for obtaining data related to the value of the value chain, the value chain having one or more business enterprises contributing to the value of the value chain,
- (d) second means for calculating, for each one of the business enterprises, a composite variable characterizing performance of the business enterprise of the value chain;
- (e) third means for calculating the value of the enterprise;
- (f) fourth means for determining, for each one of the business enterprises, a percentage of the value of the value chain contributed by the business enterprise;
- (g) fifth means for user modification of, for each one of the business enterprises, selected one or ones of the value drivers that drive the value of the value chain;
- (i) sixth means for calculating a value for each of the business enterprises of the value chain based on the value of the value chain and the percentage of the value contributed by the business enterprises after incorporating user modifications; and
- (h) seventh means for displaying the new value.

41. A data processing system as claimed in claim 40 wherein said fifth means comprises:

- (a) means for user modification of, for each one of the business enterprises, selected one or ones of the composite variable characterizing the performance of business enterprise of the value chain.

42. A data processing system as claimed in claim 40 wherein said fifth means comprises:

- (a) means for user modification of, the value of each one of the business enterprises of the value chain.

43. A data processing system as claimed in claim 40 where the value of the value chain includes a revenue component, an expense component, a capital component and a real option category of value.

44. The data processing system of claim 40 wherein said third means comprises:
- (a) means for calculating the revenue, expense and capital components of the value and the real option category of the value of the value chain.
45. The data processing system of claim 40 wherein said fourth means comprises:
- (a) means for determining, for each one of the business enterprises, a percentage of the revenue component contributed by the business enterprise, a percentage of the expense component contributed by the business enterprise, a percentage of the capital component contributed by the business enterprise and a percentage of the real option category of value contributed by the business enterprise; and.
46. The data processing system of claim 40 wherein said sixth means comprises:
- (a) means for calculating the value for each one of the business enterprises based on the revenue, expense and capital components of value of the value chain, the real option category of the value chain and the percentages of the real option category and of the revenue, expense and capital components of value contributed by the business enterprise after user modification.
47. A data processing system as claimed in claim 43, further comprising:
- (i) means for sub-dividing the revenue, expense and capital components of the value of the value chain into sub-components to yield a more detailed analysis.
48. A data processing system as claimed in claim 40, wherein said fourth means further comprises:
- (a) means for using output from a predictive model to determine the percentage of the revenue component contributed by each business enterprise, the percentage of the expense component contributed by each business enterprise, and the percentage of the capital component contributed by each business enterprise.
49. A data processing system as claimed in claim 40, wherein said fourth means further comprises:

(b) means for using output from a data envelopment analysis to determine the percentage of the percentage of the real option category of value contributed by the business enterprise.

50. A data processing system as claimed in claim 40, wherein said second means further comprises

(a) means for combining transaction data, transaction ratios, transaction trends transaction averages, time lagged transaction ratios, time lagged transaction trends, time lagged transaction averages, time lagged transaction data, transaction patterns, geospatial measures, relative rankings, links, frequencies, time periods, average time periods, cumulative time periods, rolling average time period, cumulative total values, the period to period rate of change in value to calculate the composite variable;

51. A data processing system as claimed in claim 40 further comprising:

(i) means for directly valuing at least one of the business enterprises of the value chain.

52. A data processing system for identifying changes to one or more tangible or intangible elements of value of a value of a business enterprise, comprising:

(a) processing means for processing data;

(b) storage means for storing data;

(c) first means for obtaining data related to the value of the business enterprise, the business enterprise having one or more tangible or intangible elements of value contributing to the value of the business enterprise,

(d) second means for calculating, for each one of the tangible or intangible elements of value, a composite variable characterizing performance of the tangible or intangible element of value of the business enterprise, second means including means for combining transaction data, transaction ratios and transaction trends to calculate the composite variable;

(e) third means for calculating the value of the business enterprise;

(f) fourth means for determining, for each one of the tangible or intangible elements of value, a percentage of the value of the business enterprise contributed by the tangible or intangible element of value;

(g) fifth means for calculating a value for each of the tangible or intangible elements of value of the business enterprise based on the value of the business enterprise and the percentage of the value of the business enterprise contributed by the tangible or intangible elements of value; and

(h) sixth means for user entry of a goal value related to the business enterprise; and

(i) seventh means for identifying changes to each one of the tangible or intangible elements of value of the business enterprise that will contribute to meeting the goal; and

(j) eighth means for displaying the changes.

53. A data processing system as claimed in claim 52 where the value of the business enterprise includes a revenue component, an expense component and a capital component.

54. The data processing system of claim 52 wherein said third means comprises:

(a) means for calculating the value of the revenue, expense and capital components of the value of the business enterprise.

55. The data processing system of claim 52 wherein said fourth means comprises:

(a) means for determining, for each one of the tangible or intangible elements of value, a percentage of the revenue component contributed by the tangible or intangible element of value, a percentage of expense component contributed by the tangible or intangible element of value and a percentage of the capital component contributed by the tangible or intangible element of value; and.

56. The data processing system of claim 52 wherein said fifth means comprises:

(a) means for calculating the value for each one of the tangible or intangible elements of value based on the revenue, expense and capital components of value of the business enterprise and the percentages of the revenue, expense and capital component of value contributed by the tangible or intangible element of value.

57. A data processing system as claimed in claim 54, further comprising:

(i) means for sub-dividing the revenue, expense and capital components of the value of the business enterprise into sub-components to yield a more detailed analysis.

58. A data processing system as claimed in claim 52, wherein said fourth means further comprises:

(a) means for using output from a predictive model to determine the percentage of the revenue component contributed by the tangible or intangible element of value, the percentage of the expense component contributed by the tangible or intangible element of value, and the percentage of the capital component contributed by the tangible or intangible element of value.

59. A data processing system as claimed in claim 52, wherein said fourth means further comprises:

(b) means for using output from a multivariate adaptive regression spline to determine the percentage of the revenue component contributed by the tangible or intangible element of value, the percentage of the expense component contributed by the tangible or intangible element of value, and the percentage of the capital component contributed by the tangible or intangible element of value.

60. A data processing system as claimed in claim 52 further comprising:

(i) means for directly valuing at least one of the tangible or intangible elements of value of the business enterprise.